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# A New Species of *Jacquinia* (Theophrastaceae) from Veracruz, Mexico

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**ABSTRACT.** *Jacquinia morenoana*, a new species of Theophrastaceae from the northern coast of the state of Veracruz, Mexico, is described. A discussion of its affinities with *J. macrocarpa* Cavanilles subsp. *macrocarpa*, based on the habitat and morphological characters, is presented.

**RESUMEN.** Se describe como especie nueva a *Jacquinia morenoana* (Theophrastaceae) de la costa norte del estado de Veracruz, México. Se discuten sus afinidades con *J. macrocarpa* subsp. *macrocarpa*, se indica el hábitat y se discuten las características morfológicas que las distinguen.

While reviewing material of Theophrastaceae from Veracruz, Mexico, in several herbaria (CHAPA, ENCB, MEXU, NY, US, and XAL), a specimen with glandular hairs on the flowers was detected; this character had not been previously reported for the genus *Jacquinia*. The material is described and illustrated below as a new species.

***Jacquinia morenoana*** Castillo-C. & Medina, sp. nov. TYPE: Mexico. Veracruz: Barra de Cazonnes, on the pasture near the beach, Municipio of Cazonnes, elevation 10 m, 20 June 1986, S. Vargas 91 (holotype, XAL). Figure 1.

Frutex perennis, 3 m altus. Ramorum terminalium nodi bracteae cumulatis, primordia meristemata ramorum recentium tegentibus, 1–4 mm longis, triangularibus, pubescentibus. Folia maximam partem ad nodos cumulata, lanceolata usque ad oblanceolata, 2.0–7.5 cm longa, 0.6–2.2 cm lata ad medium, apice acuta, subinde suborbicularia, in spinam rigidam terminantia. Inflorescentia terminalis, racemosa, 6–9 flora, pedicello 0.7–1.6 cm longo, ad basim bracteole triangularem vel squamiformem ferenti. Flores hermaphroditi, bilobulati, campanulati, aurantiaco-rubri, carnosii, 7 mm longi, pubescentes, pilos glandulosos ferentes, glandulis nigris. Fructus globosus usque ad leviter conicus, saepe truncatus, apice acuto, rigido, valido, cicatricem circularem ad pistilli basem ferens, ad apicem niger, 2.3–3.7 cm longus, 1.5–2.3 cm latus, viridis, aurantiacus, nitens, in sicco corrugatus.

Perennial shrub, 3 m tall; terminal branches pubescent with simple hairs, with dark brown longitudinal lines that give a corrugated aspect, bracteolate, the bracts 2.5 mm long, lanceolate,

pubescent, ciliate. Leaf-buds perulate, bracts 1–4 mm long and 0.7–1.0 mm broad at base, lanceolate, ciliate, triangular, with two transverse lines, pubescent. Leaves 2.0–7.5 cm long, 0.6–2.2 cm broad in the middle, spaced and clustered along the branches, rigid, coriaceous, lanceolate to obovate-lanceolate, apex acute, occasionally ending with an obtuse, rigid spine, 2.0–3.5 mm long, brownish green, base decurrent and thick, margin revolute and thick; abaxial surface glabrous, punctate, lineolate when dry, giving a corrugated aspect, costa prominent; upper surface mainly glabrous, gray when dry, shiny, evidently penninerved, punctate, costa pubescent at base; petiole 1–2 mm long. Inflorescences terminal racemes, 6–9-flowered; peduncle 2.5–5.0 cm long, corrugated, pilose, lignified, with bracts at the base; pedicel 0.7–1.6 cm long, broadened toward the apex, corrugated, with a triangular bracteole near the base, pilose, ciliate, apically acute with a black line on the base. Flowers hermaphroditic, orange-red, 7 mm long; calyx cupular, corrugated, glabrous, sepals 5,  $3.0 \times 3.3$  mm, suborbicular, imbricate, the margin thin, membranous, glabrous, entire; corolla campanulate, 5-lobed, the tube 5 mm long, lobes  $4 \times 4$  mm, corrugated, with glandular hairs internally, outer surface covered with hairs tipped with a dark to black gland, inner corolla appendices 5,  $1.5\text{--}2.0 \times 2.5$  mm, alternate to corolla lobes, on top of corolla tube; stamens 5, foliaceous, adnate to the middle of corolla tube, filament  $5 \times 0.8$  mm, anthers extrorse, dithecal,  $2.5 \times 1.5$  mm; style 2 mm long, stigma capitate, with 5 terminal divisions, ovary 1.5 mm broad. Fruit 2.3–2.7 cm long, 1.5–2.3 cm broad, globose to slightly conical, frequently flattened, apex acute, rigid, hard, with a circular callus at the base of the remains of the style, green, yellow, or orange, tip black, shiny, corrugated; seeds 8 mm long, 6.5 mm broad, immersed in a brown mucilaginous endocarp, flat, shiny, corrugated, brown.

**Habitat.** *Jacquinia morenoana* is found in remnants of semi-evergreen seasonal forest. It is abundant locally, at elevations of 10–290 m; associated species include *Acacia cornigera* (L.) Willdenow,



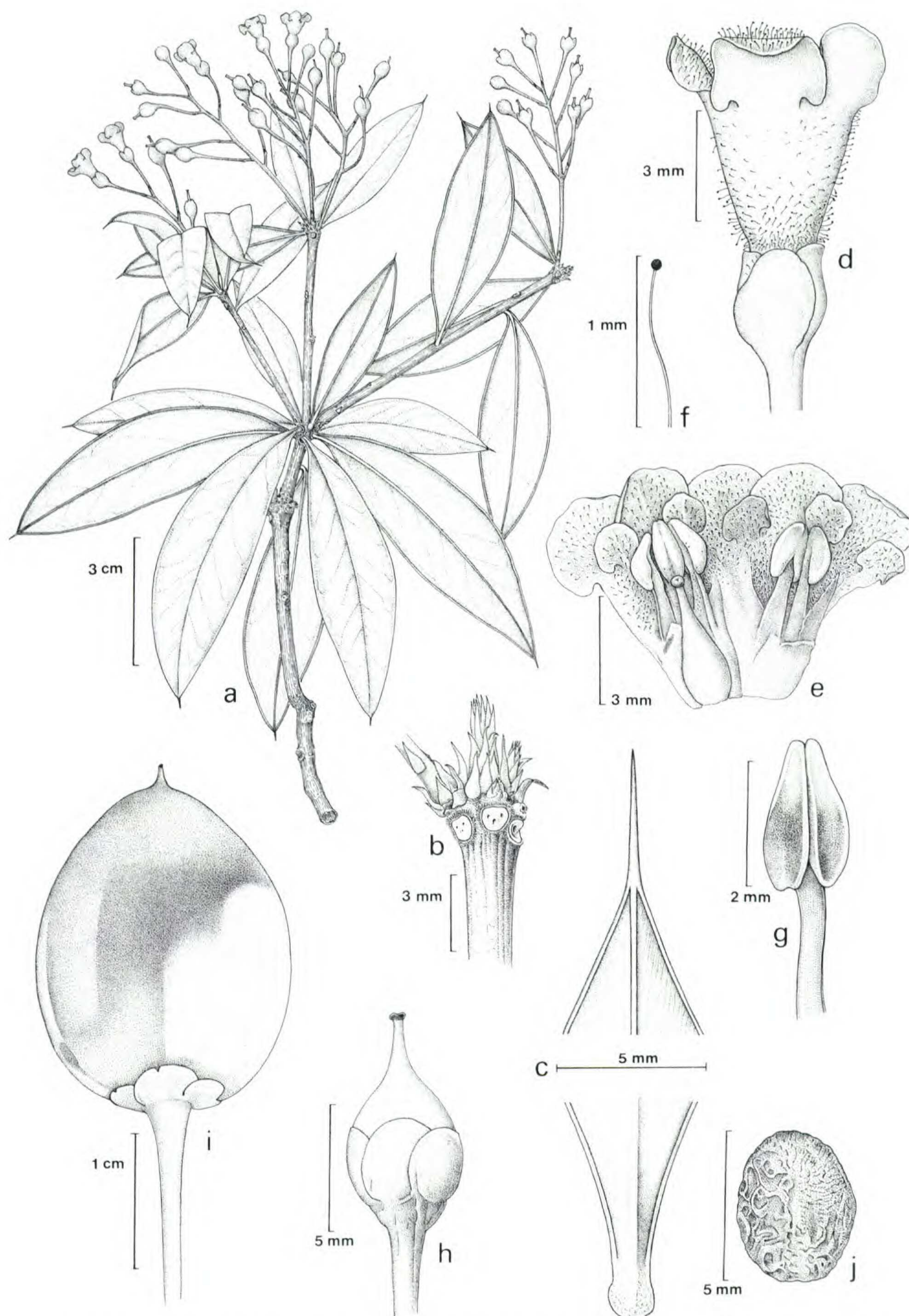


Figure 1. *Jacquinia morenoana* Castillo-C. & Medina.—a. Branch with inflorescence. —b. Bracts grouped on the apex of the youngest branches. —c. Detail of the base and the apex of the leaves. —d. Flower with glandular hairs. —e. Detail of an open flower. —f. Glandular hair. —g. Anther. —h. Small fruit. —i. Mature fruit. —j. Detail of dry seed. Illustrated by Edmundo Saavedra based on the herbarium specimens of Vargas 91 and Castillo & Medina 16032, 16033, 16034.



Table 1. Similarities and differences between *Jacquinia morenoana* and *J. macrocarpa* subsp. *macrocarpa*.

<i>Jacquinia morenoana</i>			<i>Jacquinia macrocarpa</i> subsp. <i>macrocarpa</i>
Leaf	Shape	lanceolate, obovate-lanceolate	oblanceolate, obovate-oblong, obovate
	Length	2.0–7.5 cm	3.5–8.0 cm
	Width	0.6–2.2 cm	1.1 cm
	Apex	acute, ending on a rigid spine, brownish green, 2.0–3.5 mm long	acute or obtuse with one spine green-yellowish-brown, 1–2 mm long
Petiole	Base	decurrent	decurrent
	Length	1–2 mm	1.5 mm
Flowers	Number	6–9	5
	Length	7 mm	8–10 mm
	Color	orange-red	orange-red shiny
	Pubescence	glandular hairs	glabrous
Pedicel	Length	7–16 mm	6–18 mm
Fruit	Shape	globose	globose
	Length	2.3–2.7 cm	0.8–2.8 cm
	Width	1.5–2.3 cm	1.5–2.0 cm

*Acacia farnesiana* (L.) Willdenow, *Coccoloba barbadensis* Jacquin, *Desmanthus virgatus* (L.) Willdenow, *Eugenia capuli* (Chamisso & Schlechtendal) O. Berg, *Hyptis verticillata* Jacquin, *Operculina pinatifida* (Kunth) O'Donnell, *Parmentiera aculeata* (Kunth) Seemann, *Pithecellobium lanceolatum* (Humboldt & Bonpland ex Willdenow) Benthham, *Psidium guajava* L., *Sabal mexicana* Martel, *Schleelea liebmannii* Beech, *Solanum diphyllum* L., and *Tabernaemontana alba* Miller.

**Phenology.** Flowering from June to July; fruiting from August to September.

**Local name.** Arbol de Navidad.

**Uses.** Ornamental. Not cultivated, but appreciated because of the shape of its top, which resembles a little pine tree. *Jacquinia morenoana* is a native species that grows abundantly in natural populations around the town of Cazones. People there preserve the specimens that grow naturally in their gardens or backyards and decorate them during Christmas.

The specific epithet alludes to the outstanding researcher Patricia Moreno Casasola of the Instituto de Ecología, A.C., Xalapa, Veracruz, who has dedicated most of her life to the study of the ecology of dunes on the Gulf and the Pacific coasts of Mexico.

**Paratypes.** MEXICO. **Veracruz:** Barra de Cazones north beach, S of the town of Cazones, Municipio of Cazones, *Castillo & Medina* 16032, 16033, 16034 (ENCB, IEB, MEXU, XAL).

DISCUSSION

Because of the color of its flowers, *Jacquinia* appears to comprise two groups, both of which need

more research. One group of species, those from Central America, some from South America, and those of the Antilles, have white flowers. The other group, where *Jacquinia morenoana* belongs, has orange flowers; this group is difficult to separate into clear-cut species because of considerable foliar variation between populations and individuals. In the field some populations appear to be made up of individual plants from different species, but when the material is studied in the herbarium it appears to belong to only one species.

While working on a revision of the Theophrastaceae for the state of Veracruz we found in *Jacquinia* large morphological variability in the leaves of the individuals and specimens in the populations distributed throughout the state. This variability was observed by Mez (1903) and Votsch (1904). Likewise, Ståhl (1989), recognizing this variability in *J. macrocarpa* Cavanilles, reorganized the species concept, leaving only two subspecies (subsp. *macrocarpa* and subsp. *pungens* (A. Gray) Ståhl) as inhabitants of the coastal areas in Mexico. Of these *J. macrocarpa* subsp. *macrocarpa* is found along both the Gulf and Pacific coasts. In Veracruz the subspecies was previously recorded before under either of two synonyms: *J. aurantiaca* Aiton and *J. schiedeana* Mez. So far, *J. morenoana* has been found only in northern Veracruz.

*Jacquinia morenoana* seems to be closely related to *J. macrocarpa* subsp. *macrocarpa*. It differs mainly in the presence of glandular hairs on the corolla; *J. macrocarpa* subsp. *macrocarpa* has glabrous flowers. Other small differences in the length of the leaves and the petioles, the number of flowers per inflorescence, the size of the flowers, and the



length of the apical spine of the leaves (Table 1) distinguish the new species. No species with glandular hairs on the corolla or even with pubescent flowers was known before in the genus *Jacquinia*.

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